

-continued

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 <213> ORGANISM: *Diabrotica virgifera zeae*

<400> SEQUENCE: 133

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32

What is claimed is:

1. A method of obtaining a nucleic acid segment providing a desired level of suppression of a target gene, comprising:

- a) obtaining a starting nucleic acid molecule substantially complementary to a target gene;
- b) preparing a plurality of nucleic acid segments from the starting nucleic acid molecule;
- c) assaying the nucleic acid segments for the ability to suppress expression of the target gene when expressed as a dsRNA in a cell comprising the target gene; and
- d) identifying at least a first nucleic acid segment from the plurality of nucleic acid segments that provides a desired level of suppression of the target gene when expressed as a dsRNA.

2. The method of claim 1, wherein the nucleic acid segments comprise from about 21 to about 26 contiguous nucleotide portions of said starting nucleic acid molecule.

3. The method of claim 1, wherein the nucleic acid segments comprise overlapping portions of said starting nucleic acid molecule.

4. The method of claim 1, wherein the nucleic acid segments each comprise from about 0.1% to about 98% of said target gene.

5. The method of claim 1, further comprising the step of:

- e) ranking the nucleic acid segments according to the level of suppression of the target gene obtained when the nucleic acid segments are expressed as dsRNA.

6. The method of claim 1, wherein the desired level of suppression of the target gene is from about 1% to about 100% suppression of the expression of said target gene.

7. The method of claim 1, wherein the desired level of suppression is complete suppression of the target gene.

8. The method of claim 1, wherein the desired level of suppression is incomplete suppression of the target gene.

9. The method of claim 1, wherein the target gene is from a plant, insect, fungal, bacterial or vertebrate organism.

10. The method of claim 1, wherein the target gene is a plant gene.

11. The method of claim 1, wherein the target gene is a crop pest or pathogen gene.

12. The method of claim 1, wherein assaying the nucleic acid segments for the ability to suppress the target gene comprises expressing the segments as a dsRNA in a cell comprising the target gene and determining the level of suppression of the target gene.

13. The method of claim 1, wherein assaying the nucleic acid segments for the ability to suppress the target gene comprises expressing the segments as a dsRNA in a cell; allowing a pest comprising the target gene to feed on the plant cell; and determining the level of suppression of the target gene.

14. The method of claim 1, wherein assaying the nucleic acid segments for the ability to suppress the target gene comprises calculating a Reynolds score for the nucleic acid segments.

15. The method of claim 1, wherein assaying the nucleic acid segments for the ability to suppress the target gene comprises providing said segments as dsRNA molecules in the diet of an organism comprising the target gene and determining the level of suppression of the target gene.

16. The method of claim 15, wherein determining the level of suppression of the target gene comprises observing morbidity, mortality, or stunting of said organism.

17. A method of suppressing the expression of a target gene in a cell comprising

- a) obtaining a nucleic acid segment according to the method of claim 1; and